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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,605	01/27/2004	Bo Valdemar Vaaben	7784-000948	1393

27572   7590   04/17/2008
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EXAMINER
JOSEPH, TONYA S

ART UNIT	PAPER NUMBER
3628	

MAIL DATE	DELIVERY MODE
04/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

DETAILED ACTION

Status of Claims

Claims 1-2 have been amended. Claims 11-31 have previously been cancelled. Claim

32 has been added. Thus Claims 1-10 and 32 are presented for Examination.

Response to Arguments

1.   Applicant's arguments with respect to claims 1-10 filed 1/21/2008 have been fully

considered but they are not persuasive.

2.   Applicant argues that Heuristic does not teach defining a number of objects into

specific sub problems, where each of the objects in a given sub problem have a

common origin and destination. In response to applicant's argument that the references

fail to show certain features of applicant's invention, it is noted that the features upon

which applicant relies (i.e., defining a number of objects into specific sub problems...)

are not recited in the rejected claim(s). Although the claims are interpreted in light of

the specification, limitations from the specification are not read into the claims. See *In

re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Examiner notes:

Heuristic does teach wherein each said sub problem is defined by each one of the

objects therein having the same original origin and destination (see para. 1-16,

Examiner is interpreting the known variable, indices and decision variables expressed

as various optimization models as sub problems).

3.   Applicant asserts that Heuristic does not teach identifying a subclass of objects

that are unsuitably rescheduled in the initial solutions and applying a second algorithm

for rescheduling the subclass that allows varying the original itinerary to generate

rescheduling solutions for the subclass. Examiner notes: Heuristic does teach this limitation in para. 23. Heuristic describes a specialized network, then applying an OKF algorithm to determine flight sequencing. Network simplex, which is an optimization problem solver, is used to determine the best sequences, The "unsuitably rescheduled" or dual variable flight arcs are modified, then a new OKF algorithm is used to generate new sequence possibilities. As is described in Heuristic, although the cited example describes flight sequencing, it can also be applied to varied scenarios or "objects". This is demonstrated in the sub problems of para. 15-16).

4.   Applicant's arguments with respect to claim 32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7.   Claim 2 recites the limitation "the third algorithm" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.   Claims 1-7 and 32 are rejected under 35 U.S.C. 102(b) as being unpatentable over Heuristic Procedures, (herein after Heuristic), Reference U of the attached PTO-892.

10.   As per Claims 1 and 32, Heuristic teaches, receiving a disruption specification based upon an event (see para. 4 lines 1-3), the disruption specification including data identifying the objects to be rescheduled (see para. 4 lines 6-7); receiving a request for rescheduling of the objects from a user (see para. 5 lines 6-7 and para. 6 lines 1-3); grouping the objects in the disruption specification to be rescheduled into sub problems (see para. 12 line 2), wherein each said sub problem is defined by each one of the objects therein having the same original origin and destination (see para. 12 line 3 and para. 13 lines 3-4); applying a first algorithm to each sub problem without allowing varying the origin and destination of the objects in the sub problem (see para. 15 & 16); identifying a subclass of objects that are unsuitably rescheduled in the initial solutions (see para. 22-23); and applying a second algorithm for rescheduling the subclass (see para. 22 line 5). Applying a third algorithm to said rescheduling solutions (see para. 23)The steps of receiving and identifying are at least inherent in the reference steps as applied above. The limitation, "*and reaching a plurality of initial solutions, to remove selected ones of said rescheduling solutions; to create a set of optimal rescheduling solutions*" is merely a statement of intended result and as such is afforded little patentable weight.

11.   As per Claim 2, Heuristic teaches the method of claim 1 as described above. Heuristic further teaches applying a third algorithm to an Internet Protocol (IP) problem based upon all of the objects in the disruption specification (see para. 23).

12.   As per Claim 3, Heuristic teaches the method of claim 2 as described above. Heuristic further teaches wherein the third algorithm is an IP algorithm with a branch and bound technique (see para. 15-16 and 21).

13.   As per Claim 4, Heuristic teaches the method of claim as described above. Heuristic further teaches excluding the subclass of objects from the objects that need to be rescheduled in the disruption specification and applying a fourth algorithm to the remaining objects in the reduced disruption specification to determine rescheduling solutions for the remaining objects (see para. 23, Examiner is interpreting the repetition of the OKF algorithm to include a fourth algorithm).

14.   As per Claim 5, Heuristic teaches the method of claim 4 as described above. Heuristic further teaches wherein the first and fourth algorithms are transportation simplex algorithms (see para. 23).

15.   As per Claim 6, Heuristic teaches the method of claim 1 as described above. Heuristic further teaches wherein the subclass of objects to be rerouted are identified based upon a suitably of rescheduling criteria (see para. 23).

16.   As per Claim 7, Heuristic teaches the method of claim 6 as described above. Heuristic further teaches wherein identifying the subclass includes determining a cost for each rescheduled object and comparing the cost to a threshold (see para. 13 & 15).

Claim Rejections - 35 USC § 103

17.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

18.   Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Heuristic Procedures, Reference U of the attached PTO-892 in view of Official Notice.

19.   As per Claim 8, Heuristic teaches the method of claim 1 as described above.

Heuristic does not explicitly teach, wherein the objects are passengers traveling one or

more legs between the origin and the destination. Official Notice is taken that the

objects are passengers traveling one or more legs between the origin and the

destination is old and well known. It would have been prima facie obvious to one of

ordinary skill in the art at the time of invention to modify the method of Heuristic to

include the teachings of Official Notice in order to provide an optimization solution for

disrupted passengers.

20.   As per Claim 9, Heuristic teaches the method of claim 1 as described above.

Heuristic does not explicitly teach wherein the rescheduling solutions include upgrading,

downgrading, delaying, and offloading the objects. Official Notice is taken that

rescheduling solutions include upgrading, downgrading, delaying, and offloading the

objects is old and well known. It would have been prima facie obvious to one of ordinary

skill in the art at the time of invention to modify the method of Heuristic to include the

teachings of Heuristic to provide an optimization solution to a disruption.

21.   As per Claim 10, Heuristic teaches the method of claim 1 as described above.

Heuristic does not explicitly teach wherein the second algorithm is selected from the

group consisting of the Dijkstra algorithm and a K-shortest path algorithm. Official

Notice is taken that using a Dijkstra or K-shortest path algorithm is old and well known.

It would have been prima facie obvious to one of ordinary skill in the art at the time of

invention to modify the method of Heuristic to include the teachings of Official Notice in

order to alter the results of an optimization equation.

Conclusion

22.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to TONYA JOSEPH whose telephone number is (571)270-

1361. The examiner can normally be reached on Mon-Fri 7:30am-5:00pm First Fridays

off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John W. Hayes can be reached on 571 272 0847. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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Tonya Joseph
Examiner
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/JOHN W HAYES/
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